

## Breeding The Bristlenose Plecostomus



The Longfin Green Dragon Bristlenose Plecostomus.  
A male is on the left, a female is on the right.

The bristlenose pleco can be bred easily if a couple issues are addressed. If a few aspects of their care aren't done to the fish's satisfaction then you will be as I was for over 2 years, where nothing I did seemed to trigger a single spawn. Today I have to keep them separated as there are now many tanks of fry here with regular, routine production. So what made the difference? Though you may get an occasional breeding in the tank provided for your plecos, what is described here should guarantee consistent breeding of capable breeding pairs, with maximum yield of fry that are raised with few if any losses.

First off, we are talking about the standard bristlenose pleco, *Ancistrus* sp., that attains a maximum length of about 6 inches. Developed in a wide variety of color morphs, long fin varieties have come into the hobby that are truly spectacular. Today they are available as the natural brown, as well as spotted, albino, calico, chocolate, red, and white, many bred in both short and long fin varieties. The variety being referred in this article are the longfin "Green Dragon" plecos.

Easy to sex, the males develop facial growths – "bristles" that are actually soft fleshy branched protuberances. The females are slightly smaller with less extensive finnage (but still with long, showy dorsal and tail), and whose abdomens can become quite distended when filled with eggs. They need to age close to a year before able to breed regularly, and a single pair can be very prolific, having 150 -200 eggs at a time.

The male will choose an enclosed space to breed in (more on that in a moment), and when a female is ready, she will be lured into the cave. The male and she will twist about in the recesses of the enclosure, where she will release the adhesive eggs, and he will fertilize them. The female is let go, often with a collection of torn fins and a slimmed down figure, indicating they had just bred.

The male then guards the eggs and fry until they leave the cave, after which only a few will survive. The male when guarding the eggs generally doesn't eat, and with some of the caves, the male is able to form a seal around the eggs and fry, so that they can't even be seen. You will need to remove the fry and raise them up separately, and that will be explained later in this essay.

### **But first- how do you get them to breed?**

A tank of at least 29 gallons should be used. Two breeding areas at opposite sides of a 55 gallon is perfect. Full grown pairs will reach 6 inches, and the adult males, particularly after assuming ownership of "their" cave, can be fairly territorial.

Most hobbyists set out to breed fish that have grown out in their tanks, hearing of others who one day simply looked in to see pleco fry. This leads one to think that if you wait for it, it will happen. If you are like most people, your wait may be awhile, unless you make specific efforts to breed and save the fry of this fish.

First off, plecos are catfish, and most catfish require good water quality and some water movement to spawn. They are also specific about the structure they choose to breed in.

### **The Fish**

You must obtain a sexually mature pair, or better yet, a group, and allow the fish as they grow out and mature to pair off naturally. I have found that plecos tend to pair bond, though switching a partner, by removing one, could probably be done if necessary.

It seems to take a while before they become old enough to spawn- close to a year, and determining when they have reached sexual maturity is not difficult. Males will grow soft, fleshy, permanent, branching facial protuberances that immediately identify them distinct from the females. As well, with the longfin varieties, the males are also larger, with longer, more extensive finnage. Though a dusky green color most of the time, the males become almost black when breeding, and will maintain that darker color while they are guarding the eggs.

The females are slightly smaller, with a smooth face. As they become breeding age they will become rounder as they fill with eggs, giving the impression they had swallowed a large marble.

### The Pleco Cave

If they are not breeding for you, you must satisfy variables that could lead to success.. I found it important to invest in "real" ceramic caves, as opposed to a simple piece of white or black PVC with a cap at one end. Some feel the surface is too slick for the plecos, some claim it's the color, and some claim to use them routinely with success. I know they will breed in natural looking clay fired oval tubes, closed off at one end. Be sure the cave you set out will be snug for the pair you have- They search out the tightest, most confining space for the job. Today there are a number of makers of pleco caves on the internet that can be bought affordably.

### Tank Size

The size tank is dictated by the size of the fish you are working with and number of pairs in the tank. Single pairs will breed easily in a 29 tall with 4 to 5 inch fish. A few pairs here that approach or exceed 6 inches are bred in 55 gallon tanks, 2 pairs per tank, but a single pair would probably breed in a 30 if the tank had few other inhabitants.



The most prolific 55 gallon tank for the plecos. Today there are two young sexually mature pairs, and two individuals that have not yet sexed out. one of these pairs has had 3 spawns. Many spawns have come from the cave on the far left and the second one from the right. No males have chosen the other two. Alfaro cultratus can be seen swimming above. Notice that the caves are bent or tilted so that eggs will not fall out.

### Tank Setup

You want the fish to use the cave and feel secure, but you still want to be able to watch them closely so that you can determine when any eggs are laid, and when they will hatch. If you are planning to keep more than one pair in a larger tank, you might consider dither fish that won't bother the pleco eggs or young. Surface feeders such as Alfaro cultratus are an excellent choice. The bottom should be bare bottom or with a minimal substrate as they will be eating foods that can foul the tank, and could cause water quality issues that could discourage them from breeding.

Our experience is that the bristlenose plecos generally leave Java Fern, Java Moss and bolbitis fern alone, so using small groups of plants for security and natural look works well.

Though many claim to breed plecos at a wide variety of temperatures, I have found that breeding them at 77-78 degrees works best. Moderate to normally bright lighting is fine for them.

As with many fish that look to spawn in a safe environment where they hope to guard their eggs, try to provide opportunities for them to feel secure. Here, we cover the tanks, keep the lighting at moderate levels, and put in a thin layer of gravel over about half the tank bottom around the caves and separate from the high activity areas where they are fed. Moderate to Heavy aeration is used with some water movement.



Plecos need easily digestible, highly nutritious vegetable food, and lots of it. Feeding blanched zucchini is essential to maintain them in good health, but if you wish to trigger them to breed, as well as to maintain them at their maximum health, beans can't be beat. The French Cut are necessary, particularly for younger fish that have difficulty getting past the skin of whole beans. Others have reported good luck using peas. But with any of these, extra filtration becomes important to maintain breeding levels of optimum water quality.

## Feeding

When everything else is in place, the proper foods to trigger them to spawn are often the step that brings success. The quickest and most consistent results come from feeding canned French cut Green beans, no salt if possible. The French cut splays the beans so the fish can eat them more easily. However, here we must use the 6.5 lb. cans, and regular beans are all that is available. They work fine, but with new fry it is necessary to cut them in half so they can access the bean to be eaten. In combination with the green beans, a broad higher protein dry food can be fed alternatively. Plecos are big eaters, and when setting out to breed them, place green beans in the tank first thing in the morning, and try to always keep some available to feed upon. You may find that you will need to replenish the beans once or twice more over the course of the day.

Blanched zucchini is excellent for maintaining them, but does not provide enough nourishment if you are looking to breed them. Others have mentioned feeding green peas, but we have never used them here.

## Water Quality

This is one area that alone will keep your plecos from spawning. They may live comfortably in a tank for many years with apparent satisfaction, but if there are routine, chronic water quality issues, breeding may not occur. Many fish require water of better quality to breed than what they normally thrive in. Some may claim plecos breed without concern for water quality, but for breeding success, and certainly to accomplish spawning if it has been a problem, plecos must be treated like any other catfish that requires optimum water conditions.

This becomes a big problem when you are putting at least a handful each day of green beans into your tank! The combination of the mulching of the green beans done by the plecos as they eat them, their waste, and the natural tendency of green beans to cloud the water, leads to immediate issues if something isn't done.

For this, on a 29 tall or 55 gallon tank, a 250 hang on the side canister filter is used to boost the filtration and keep the water from becoming too ammonia rich. Heavy water changes also come into play. Fortunately, young plecos seem very tolerant of the cloudy water that follows a bacterial bloom- though I rush to address it when it occurs. These canister filters – when using their “micron sleeve” for maximum filtration, should keep the tank fairly clean and relatively mulm free. It will need to be changed whenever it clogs up, and when feeding beans to encourage a spawn, the filter may need to be changed daily. (The sleeves clean easily by soaking in water and bleach, and two sleeves can simply be rotated. However, be careful to rinse the sleeves thoroughly- be sure to sniff each sleeve before using it to ensure there is no bleach residue.)

Yet there is one more solution to this problem. If you are using multiple tanks, I have set up a sump system with a pump that runs the water through layers of foam and floss, in combination with the normal tank filtration. However, many 10s, 20s and 30s are used to raise pleco fry that are not on a central sump, and with the external canister filter, normal box filtration and regular water changes, the tanks do fine.

## Triggers

When all of the factors mentioned are followed, if breeding is problematic it is because they will breed too frequently. Too often, within days of removing a spawn from a cave, the male will have another batch going. Plecos are very prolific in the wild as well, so when conditions are to their liking, they will generally breed. However, I have found breeding to commence almost immediately if certain things are done.

With a pair that had bred previously, they were separated for a couple weeks, and then when she was clearly full of eggs they were introduced in a breeding tank. He had taken ownership of a specific cave and it was moved with him when put in the new tank. They were introduced in the afternoon, and he was guarding eggs by morning.

On more than one occasion, tanks are cleaned and set up to breed pleco pairs, and when doing so, 20-40% of old water is used, the rest is fresh. Often the abrupt water change will trigger them to spawn, and there will

often be batches being guarded as soon as the next morning after being moved to the new tank.

### The Breeding

So you have a pair in a 29 tall, 78 degree aquarium with some plants for cover, and good aeration in a tank that is essentially bare bottom with a thin layer of gravel. Beans are fed throughout the day with a good quality higher protein dry food, and a pair of adult plecos, with the female obviously round with eggs swim beneath the stream of water coming from the 250 HOT Magnum hang-on-the-side canister filter. A natural cave of ceramic, rock, or fired clay at least 5-6 inches long is provided, large enough that the male can get in and out fairly easily (and at some point will have the female in there with him), and the cave is placed so that you can see into it (possibly with a pen flashlight).

The male should take ownership of the cave, or will choose one that he will call his own, and he will lay for most of the day at the cave opening.

When the female decides that she is ready to lay her eggs, she goes over to the male, and before breeding they will generally both be in good shape. After breeding, they will have spent time rolling around in the tube, and will often show slight abrasions and torn fins. The female may also appear to be slimmed down. She may hang out near the breeding cave, but is otherwise no longer involved once the eggs are laid.

The male will become very dark colored following breeding, and will stay slightly in from the mouth of the cave actively "fanning" the eggs- his fins will shake consistently for hours to keep water flowing over the eggs.

New, young males will frequently need to learn to do this appropriately, and will frequently knock eggs from the cave. They do not put them back, and you must remove them to hatch and raise them separately, which will be gone into in greater detail later in this essay. If the eggs are not saved, the eggs or new fry will likely not survive.

After 4-5 days, the eggs will hatch, and the young will stay in the cave guarded by the male, until their yolk sacs are depleted – they will then venture out looking for food. If you are going to save the batch it is necessary to remove the fry and raise them up where they can be fed and monitored properly before this happens. Occasionally, after taking 3 or 4 batches of fry away from a male I will let him raise a batch up himself, and rarely do more than 8 or 10 survive of a batch of usually over 100 eggs.

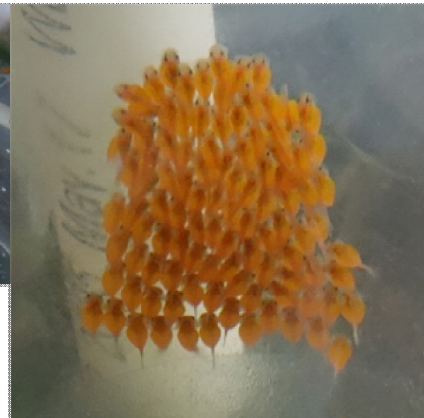
This next fry sequence are all of the same batch.



Just hatched. Notice the whitish structure the eggs were encased in on the right.



5 hours old. Immediately they clump together for safety.



The second day. each set of tiny eyes and a tails sits above the round yolk sac.



Day 3



Day 4



Day 5. Through this entire time, they are not being fed anything, and provided with aeration and twice daily water changes.



Day 6. At this point feeding of frozen BBS and ground cichlid pellets begin. A few green beans are offered and changed daily.



Day 7. They haven't suddenly become dark it is simply the light, but their dark natural color has begun to develop.



Day 8. The lighting here begins to show the differences in shading between individuals.



Day 9- The new pleco fry get their own digs in a regular, filtered, bare bottom tank. Mulm is kept siphoned up about every other day.

To the right is a line in development, and if all goes well, the first of this line to be sold will be the young of this generation. Not clear in this photo, the body length of this fish is nearly half tail!



### Raising the Young

The best time to "harvest" the young is within 2 days of when they hatch. If you do manage to retrieve eggs – an orange colored ball of large eggs attached to one another- this is OK, they can be hatched in the same way the fry are raised. I take a plastic tub that will float in the tank where the eggs were laid, the size tub of about 10 x 12 inches and around 4 inches deep. This will be floated in the tank (so the temperature stays the same, and multiple daily water

changes can be easily done with water from the tank it is floating in.) Into this tub is placed an airstone with a moderate air flow. If you are hatching eggs, you do not want the bubble stream to be so strong as to disrupt the eggs- just keep the air strong enough that it keeps the water gently flowing around them.

Removing the fry / eggs from the cave- This doesn't make for the best day for the pleco, and I would rather it were a less disruptive process. Take the tub to be floated in the breeding tank, and put about 2-3 inches of water from the tank into it. To startle the pleco as little as possible (causing him to possibly scatter the eggs or fry from the cave), I gently but quickly move the cave with the eggs and male pleco in it into the tub. The pleco will generally spread out and refuse to be dislodged from the cave. So with a rocking motion, fill the cave with water and rinse it out- hopefully pulling eggs or fry with it. Keep doing this until you have the amount of fry you want to raise up. I will often leave some of the spawn for the male to care for, or to come back and retrieve later. The cave and male are put back in the same spot in the tank, and the tub is lowered into the tank to float and raise the young in until they are ready for a tank of their own.

All of the young will group together as they would against the wall of the cave for the first 5-6 days. They are absorbing their yolk sacs and are not yet eating. However, they are respirating and releasing wastes into the water as at any other time, so change about 50% of the water (with clean water from the tank they are floating in) at least twice a day. I keep a small cup nearby, and can easily dip out and replace water as I pass by.

Around days 5 and 6 they will become old enough that they will cease to huddle together in tight groups, and will begin to explore, searching for food. As soon as you see them beginning to separate out around the container, feed them baby brine shrimp. Now, it is not enough to hatch the shrimp and feed it to them as you would any other fish.

These baby plecocs can only eat what they can crawl over, so the BBS must be accessible to them. After hatching, rinse the BBS in a net and mix back into a couple cups of aquarium water, then pour into ice cube trays and freeze them to be fed over the next few days. The shrimp are then nearly as nutritious as when live, and are eaten eagerly by the new plecocs. After recently purchasing a coffee grinder, high quality cichlid pellets are also ground up and fed to the baby plecocs. They are fed twice a day with each feeding followed by at least a 50% water change within an hour or so, before the deteriorating thawed BBS has an opportunity to cloud the water.

At this time it is also best to introduce either French cut green beans or regular green beans cut in half to get them accustomed to foraging on vegetable food. The quicker you can get them on green beans, the quicker you can put them into a tank of their own without losses, as they will be accustomed to eating food that will generally be available. Depending on the number of fry in the batch, size of container you are using, etc., you will likely want to get them into their own tank with filtration in 7-10 days. You will know when it is time when most are eating the beans routinely.

Unfortunately, the green beans will cloud the water after a few hours. The cloudiness is caused by a bacterial bloom that occurs when the bacteria feed on the deteriorating vegetable matter. Soon the amount of oxygen used and the waste produced by the bacteria will overwhelm the container, killing the batch. So all beans are removed before nightfall and replenished in the morning, followed by a water change, as long as they are in the confined tub. Each evening before leaving them until morning the quality of the water is checked- a problem is any sign of cloudiness-, and a quick water change will be done. The airstone should be going 24/7. At first you may want to remove the airstone when the fry are feeding on the brine shrimp or the ground food, to be replaced once they finish eating.

To reduce organic load as the fish grow, cull as soon as you can see traits that are undesirable. With the long fin varieties, any short finned fish are removed as soon as they can be identified.

They will consistently with good feeding and clean water, reaching about 2 inches in 3-4 months, and sexing out in 5-6 months.

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